

Claims

1. Floor covering comprising as polymer binder at least one elastomer based on at least one polyolefin with a density $< 0.910 \text{ g/cm}^3$, and at least one grafted copolymer.
2. Floor covering as claimed in Claim 1, wherein the polyolefin has a density of $0.85 - 0.892 \text{ g/cm}^3$.
3. Floor covering as claimed in Claim 1 or 2, wherein the polyolefin is selected from among the class of VLD PE polymers.
4. Floor covering as claimed in any one of Claims 1 to 3, wherein the polyolefin is a mixture of at least two ethylene copolymers, wherein the ethylene copolymer mixture comprises a copolymer (a) as the main polymer with a density of $0.89 - 0.91 \text{ g/cm}^3$ and a copolymer (b) to control rheology and elasticity with a density of $0.86 - 0.88 \text{ g/cm}^3$ and an MFI > 3 .
5. Floor covering as claimed in Claim 4, wherein the copolymers (a) and (b) are present at a weight ratio of 4:1 to 3:2.
6. Floor covering as claimed in Claims 4 and 5, wherein the copolymers (a) and (b) are copolymers of ethylene and octene.
7. Floor covering as claimed in any one of Claims 1 to 6, wherein the grafted copolymer is a grafted copolymer based on a HD polyethylene.

8. Floor covering as claimed in Claim 7, wherein the grafted copolymer is a maleic acid anhydride grafted HD polyethylene.

9. Floor covering as claimed in Claim 8, wherein the grafting degree is 1% to 5%.

10. Floor covering as claimed in any one of Claims 1 to 9, wherein the proportion of grafted copolymer in relation to the total weight of the polymeric binder is 5% to 25% by weight.

11. Floor covering as claimed in any one of Claims 1 to 10, wherein the elastomer is cross-linked with at least one cross-linking agent based on organic peroxides and possibly one or more co-cross-linking agents.

12. Floor covering as claimed in Claim 11, wherein isocyanuric acid derivatives and/or acrylate or methacrylate derivatives derived from polyols are used as co-cross-linking agents.

13. Floor covering as claimed in any one of Claims 1 to 12, which further contains fillers and/or pigments as well as possibly processing aids, antioxidants, static eliminators, UV stabilizers and slip agents.

14. Floor covering as claimed in Claim 13, wherein essentially a mixture of platelet-shaped and crystalline mineral intergrowths is used as filler.

15. Floor covering as claimed in any one of Claims 1 to 14 having a variable color pattern and a homogeneous design.

16. Process for producing a floor covering as claimed in any one of Claims 1 to 15, comprising the provision of a substrate in the form of a strip and the

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application of the elastomers defined in Claims 1 to 14 to one side of the substrate.

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17. Process for producing a floor covering as claimed in any one of Claims 1 to 15 comprising the following steps:

- Wetting of particles with a solution containing at least one organic peroxide free from aromatic hydrocarbons and possibly one or several co-cross-linking agents and possibly process oil, wherein the particles contain the above-defined polymers, which form the polymeric binder of the floor covering according to the invention, either cross-linked or partially cross-linked in the form of a ground or granulate stock,
- Heating of the particles to a temperature at which the peroxide has sufficiently long stability, wherein the particles are subsequently precompacted and shaped into a flat product, and
- Pressing of the flat product thus obtained in a suitable apparatus at a temperature at which the half-life of the peroxide is reduced such that cross-linking initiated by the peroxide simultaneously occurs to obtain a flat end product.

18. Process as claimed in Claim 17, wherein the wetting of the particles is carried out such that, in a first step, the particles are wetted and mixed with one or several co-cross-linking agents and possibly process oil and subsequently, in a second step, are wetted and mixed with at least one organic peroxide free from aromatic hydrocarbons and possibly process oil.

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